The list of academic disciplines of the university component

7M07 - Engineering, manufacturing and construction industries
(Code and classification of the field of education)

7M071 - Engineering and Engineering affairs
(Code and classification of the direction of training)

0710
(Code in the International Standard Classification of Education)

M100 - Automation and control
(Code and classification of the educational program group)

7M07102 - Automation and Control
(Code and name of the educational program)

Master
(Level of preparation)

set of 2024

Semey 2024

Developed

By the Academic Committee of the Educational Program
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Reviewed

at the meeting of the Commission on Academic Quality of the Faculty of Engineering and Technology
Protocol No. 3 January 15, 2024
at the meeting of the Commission on Academic Quality of the Higher School of Artificial Intelligence and Construction
Recommended for approval by the Academic Council of the University
Protocol No. 1, "6" June 2024

Approved

at a meeting of the University Academic Council by protocol No. 6/1 of January 19, 2024.

at a meeting of the University Academic Council by protocol No. 11 of June 28, 2024.

Foreign language (professional)

Discipline cycle	Basic disciplines
Course	1
Credits count	3
Knowledge control form	Examination

Short description of discipline
Mastery of general cultural, professional and special competencies for the implementation of professional activities, involving teaching free reading of original literature of the relevant branch of knowledge in a foreign language; development of oral communication skills in monological and dialogical form in the specialty; development of written scientific communication skills on topics related to the scientific work of a graduate student, as well as familiarization with the forms and types of international cooperation in the scientific field.

Purpose of studying of the discipline
The purpose of studying the discipline "Foreign language (professional)" in the master`s degree program is the systematic deepening of communicative competence within the framework of international standards of foreign language education on the basis of further development of skills and abilities of active language proficiency in the professional activity of the future master.

Learning Outcomes
ON1 Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities.

Learning outcomes by discipline
- to know the specifics of oral and written speech in the fields of professional, scientific, socio-political relations;
- to know the national and cultural peculiarities of the creation and organization of a text in a foreign language within the framework of professionally motivated conditions;
- to know the stylistic features of the vocabulary of a foreign language in the field of professional communication;
be able to perform:
- implementation of professional activity in linguistic, sociolinguistic, information-analytical and communicative aspects;
- creating your own verbal and non-verbal order in the fields of professional and scientific socio-political relations;
- the use of a variety of language and speech means adequate to social factors, communication conditions, the status of the interlocutor and his communicative intentions;
-be able to organize speech activity as a representative of another culture and the nature of communication in accordance with the tasks of communication, the speech situation, individual characteristics;
the presence of skills:
- to perceive by ear and understand the appropriate level of messages of a business, informational and vocational nature;
- dialogical and monological communication within the framework of professional activity;
- to get acquainted and study business and scientific and technical documentation, which provides for obtaining information from what has been read and using it in speech;
- have the skills of systematic presentation of thoughts, thinking, information when writing letters of an official, professional nature;

Prerequisites
Bachelor

Postrequisites
Final examination

History and philosophy of science

Discipline cycle	Basic disciplines
Course	1
Credits count	5
Knowledge control form	Examination

Short description of discipline
The discipline is aimed at studying the culture of scientific thinking, forms analytical capabilities and research skills, provides theoretical and practical knowledge necessary for a future scientist. Explores the historical evolution of the sciences and the philosophical perspectives they form. The origins of modern science, its social and institutional connections are described. General philosophical issues related to thought experiments, confirmation and refutation of theories, the origin and application of quantitative and high-quality research methods are considered.

Purpose of studying of the discipline
the formation of an interdisciplinary worldview among undergraduates, based on a deep understanding of the history and philosophy (theory) of scientific thinking, as part of a universal culture.

Learning Outcomes
ON1 Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities.

Learning outcomes by discipline
вe able to apply fundamental scientific, pedagogical, managerial, and communicative knowledge and skills in professional activities

Prerequisites
Bachelor

Postrequisites
Final examination

Higher Education Pedagogy

Discipline cycle	Basic disciplines
Course	1
Credits count	3
Knowledge control form	Examination

Short description of discipline
The course is aimed at studying the main directions, principles and patterns of higher education. During the course of the course, the

basic concepts of modern pedagogy, concepts and theories of teaching and upbringing, didactics of higher education will be considered. The master`s student will master the skills of designing the organization of the educational process, techniques of individual and group reflection, will be able to correctly formulate pedagogical goals, apply educational technologies in the educational process. in the process, to design work programs of disciplines.

Purpose of studying of the discipline
The purpose of mastering the discipline is to master the system of knowledge about higher education, its content, structure, principles of educational process management and mastering modern technologies in the field of management and organization of the educational process

Learning Outcomes
ON1 Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities.

Learning outcomes by discipline
• Be able to solve the problems of higher pedagogical education and the prospects for its further development;
• Have the skills to consider the application of effective university technologies;
• Solve topical and psychological and pedagogical problems,

Prerequisites
Bachelor

Postrequisites
Pedagogical practice

Psychology of management

Discipline cycle	Basic disciplines
Course	1
Credits count	3
Knowledge control form	Examination

Short description of discipline
The content of the course is aimed at mastering the approaches and directions of management psychology, psychological laws of management, features of planning and solving management problems. Students will get acquainted with the psychological methods of resolving conflict situations, master the ways of motivating work, the methods of using effective management styles. Skills will be formed to analyze the psychological causes underlying the decline in the effectiveness of the management process.

Purpose of studying of the discipline
The purpose of the discipline "Psychology of Management" is the formation of scientifically based ideas about the system of mental phenomena, psychological variables of behavior and conscious human activity in modern conditions and allows undergraduates to form skills of applying the acquired psychological knowledge in educational activities

Learning Outcomes
ON1 Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities.

Learning outcomes by discipline
- be able to determine the forms and methods of effective team management;
- develop plans for the development of organizations, provide psychological support for the activities of organizations;
- possess methods of solving managerial tasks.

Prerequisites
Bachelor

Postrequisites
Pedagogical practice

Research work of the undergraduate, including the implementation of the master s thesis I

Discipline cycle	Profiling discipline
Course	1
Credits count	11
Knowledge control form	Total mark on practice

Short description of discipline
The purpose of the discipline is to prepare undergraduates for independent research work, the results of which should be prepared and successfully defended a master`s thesis, which is an independent and logically completed work related to the solution of the problems of the type of activity to which the master is prepared.

Purpose of studying of the discipline
Learning Outcomes
ON2 Conduct experiments according to specified methods with the processing and analysis of results, apply information technology methods for information processing.

Learning outcomes by discipline
Prerequisites
Basic and profile disciplines of the EP

Postrequisites
Final examination

Pedagogical practice

Discipline cycle	Basic disciplines
Course	2

| Credits count | 6 |
| Knowledge control form | Total mark on practice |

Short description of discipline

Pedagogical practice of undergraduates consists in direct pedagogical activity: independent carrying out laboratory and practical classes, seminars, reading trial lectures on the offered subject, preparation and carrying out occupations with application of modern educational technologies together with the faculty of the corresponding Department.

Purpose of studying of the discipline

preparation of the master to the holistic performance of professional and pedagogical functions of the teacher Higher education institution as a condition for its development as a subject of professional activity.

Learning Outcomes

ON1 Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities.

Learning outcomes by discipline

Prerequisites

Masters degree course

Postrequisites

Research work of the undergraduate, including the implementation of the master s thesis III

Research work of the undergraduate, including the implementation of the master s thesis II

Discipline cycle	Profiling discipline
Course	2
Credits count	4
Knowledge control form	Total mark on practice

Short description of discipline

The purpose of the discipline is to prepare undergraduates for independent research work, the results of which should be prepared and successfully defended a master``s thesis, which is an independent and logically completed work related to the solution of the problems of the type of activity to which the master is prepared.

Purpose of studying of the discipline

Learning Outcomes

ON2 Conduct experiments according to specified methods with the processing and analysis of results, apply information technology methods for information processing.

Learning outcomes by discipline

Prerequisites

Masters degree course

Postrequisites

Final examination

Research practice

Discipline cycle	Profiling discipline
Course	2
Credits count	13
Knowledge control form	Total mark on practice

Short description of discipline

Research practice refers to industrial practices is the practice of obtaining professional skills and professional experience. This practice is provided by the scientific and pedagogical staff of the Department, having a degree, and systematically engaged in scientific and methodological activities

Purpose of studying of the discipline

The research practice of the undergraduate is carried out with the aim of acquainting with the latest theoretical, methodological and technological achievements of domestic and foreign science, with modern methods of scientific research, processing and interpretation of experimental data.

Learning Outcomes

ON11 Use technological and functional standards, modern models and methods for assessing quality and reliability in the design, construction and debugging of automatic control and control systems.

Learning outcomes by discipline

Knowing:
- the methodology of scientific research, including methods of studying scientific literature, regulatory and reference information, as well as Internet technologies on the problem under study;
- ways of substantiating the significance of the selected problem, setting goals and specific research objectives;
- the essence of the object and subject of research; research methods and methods of describing the research process;
Abilities:
- to formulate a task requiring a solution based on in-depth professional knowledge;
- to analyze and process the data obtained, formulate conclusions and evaluate the results obtained.
Skills:
- skills for performing certain types of professional activity:
- the skills of adapting the obtained theoretical knowledge to practical activities;

Prerequisites

Research work of the undergraduate, including the implementation of the master s thesis III

Postrequisites

Research work of the undergraduate, including the implementation of the master s thesis III

Discipline cycle	Profiling discipline
Course	2
Credits count	9
Knowledge control form	Total mark on practice

Short description of discipline
The purpose of the discipline is to prepare undergraduates for independent research work, the results of which should be prepared and successfully defended a master````s thesis, which is an independent and logically completed work related to the solution of the problems of the type of activity to which the master is prepared.

Purpose of studying of the discipline
Learning Outcomes
ON2 Conduct experiments according to specified methods with the processing and analysis of results, apply information technology methods for information processing.
Learning outcomes by discipline
Prerequisites
Masters degree course
Postrequisites
Final examination